

**Montana Board of Oil and Gas Conservation  
Environmental Assessment**

**Operator:** Energy Corporation of America  
**Well Name/Number:** ECA Foothills 8-H  
**Location:** SE SE Section 14 T6S R17E  
**County:** Stillwater, MT; Field (or Wildcat) Wildcat

**Air Quality**

(possible concerns)

Long drilling time: No, 10 to 15 days drilling time.

Unusually deep drilling (high horsepower rig): No, medium depth drilling with a double derrick or a small triple derrick drilling rig. Will drill a single lateral horizontal hole to 6007' MD/4341' TVD in the Greybull Formation.

Possible H<sub>2</sub>S gas production: No, none anticipated from the Greybull Formation at total depth.

In/near Class I air quality area: Near to a Class I air quality area, the Custer National Forest, about 1.1 miles to the south and about 3 miles to the west from this location.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under rule 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: \_\_\_\_\_

Comments: No special concerns – using a small triple or double derrick drilling rig to drill a single lateral horizontal hole to 6007' MD/4341' TVD in the Greybull Formation. Associated gas can be flared under Board Rule 36.22.1220.

**Water Quality**

(possible concerns)

Salt/oil based mud: Yes, horizontal lateral will be drilled with 2% KCL water. Surface hole, rule 36.22.1001 and intermediate casing hole will be drilled with a freshwater and freshwater mud system.

High water table: No high water table anticipated.

Surface drainage leads to live water: Yes, closest drainage is an unnamed ephemeral tributary to Morris Creek, about ¼ of a mile to the southeast from this location.

Water well contamination: No, closest water well is about 3/8 of a mile to the northwest about 3/8 of a mile to the northeast and about ½ of a mile to the northeast from this location. Depth of these freshwater wells ranges from 90' to 230'. Surface casing hole will be drilled with freshwater/freshwater drilling fluids to 452'. Steel surface casing will be run and cemented to surface from 452'. Main hole will be drilled with freshwater and freshwater mud to 3032' MD.

Porous/permeable soils: Yes, gravelly clay soils.

Class I stream drainage: Morris Creek may be a Class I stream.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

- \_\_\_ Berms/dykes, re-routed drainage
- \_\_\_ Closed mud system
- \_\_\_ Off-site disposal of solids/liquids (in approved facility)
- \_\_\_ Other: \_\_\_\_\_

Comments: 452' of steel surface casing cemented to surface adequate will adequately protect freshwater zones. Also, fresh water mud system to be used to drill surface hole, rule 36.22.1001. Production casing will be cemented. Reserve pit is proposed to be lined with a 20 mil synthetic liner.

### **Soils/Vegetation/Land Use**

(possible concerns)

Stream crossings: Yes, will cross Morris Creek over existing bridge. No other streams to be crossed.

High erosion potential: No, small cut required up to 5.57' and small fill, up to 6.9', required. Location is built on the existing location for the Foothills 44-14H plugged and abandoned oil well drilled by Equitable Resources. Spudded on December 30, 1996.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, a large wellsite, 300'X379' location size required.

Damage to improvements: None surface use appears to be a forest, but on the existing location for the Foothills 44-14H P&A well location..

Conflict with existing land use/values: None.

Mitigation

- \_\_\_ Avoid improvements (topographic tolerance)
- \_\_\_ Exception location requested
- ☒ Stockpile topsoil
- \_\_\_ Stream Crossing Permit (other agency review)
- ☒ Reclaim unused part of wellsite if productive
- \_\_\_ Special construction methods to enhance reclamation
- \_\_\_ Other: \_\_\_\_\_

Comments: Access will be over existing county road, East Rosebud Road and existing ranch/well access road. Cuttings will be disposed of in the lined reserve pit. Drilling fluids will either evaporated in the reserve pit or hauled to a commercial disposal, Oilfield Disposal Services in Worland, WY for evaporation.

### **Health Hazards/Noise**

(possible concerns)

Proximity to public facilities/residences: Closest residences about 1.75 miles to the southeast from this location. The town of Rosco, Montana is about 5 miles to the northeast from this location. About 1.1 miles to the south and 3 miles west of this wellsite location is the Custer National Forest boundary.

Possibility of H<sub>2</sub>S: None, Cretaceous Greybull Sandstone Formation at total depth.

Size of rig/length of drilling time: Double derrick or small triple derrick drilling rig/short amount of drilling time, estimate 10 to 15 days drilling time.

Mitigation:

- ☒ Proper BOP equipment
- \_\_\_ Topographic sound barriers
- \_\_\_ H<sub>2</sub>S contingency and/or evacuation plan

\_\_\_ Special equipment/procedures requirements

\_\_\_ Other: \_\_\_\_\_

Comments: Operational BOP (3000 psig annular BOP) rule 36.22.1014 and adequate surface casing should mitigate any problems. Formations to be drilled are characteristically non H2S bearing. Distance to residences sufficient won't create a noise problem. No concerns.

### **Wildlife/recreation**

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: Custer National Forest boundary is about 1.1 miles to the south and 3 miles west of this wellsite location.

Creation of new access to wildlife habitat: No, all surface access is private land controlled. Existing access roads were constructed for previous oil wells.

Conflict with game range/refuge management: None. No game range/refuge nearby.

Threatened or endangered Species: Threatened or endangered species listed are the Canada Lynx, Black-footed Ferret and Grizzly Bear. Species of Concern are the Greater Sage Grouse, Sprague's Pipit and White-bark Pine and proposed species of concern is the Wolverine for Stillwater County on the Region 6 USFWS website. NH Tracker website lists six(6) species of concern: Wolverine, Hoary Bat, Canada Lynx, Fringed Myotis, Grizzly Bear and Yellowstone Cutthroat Trout.

Mitigation:

\_\_\_ Avoidance (topographic tolerance/exception)

\_\_\_ Other agency review (DFWP, federal agencies, DSL)

\_\_\_ Screening/fencing of pits, drillsite

\_\_\_ Other: \_\_\_\_\_

Comments: Private surface forest lands. There may be species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

### **Historical/Cultural/Paleontological**

(possible concerns)

Proximity to known sites: None identified.

Mitigation

\_\_\_ avoidance (topographic tolerance, location exception)

\_\_\_ other agency review (SHPO, DSL, federal agencies)

\_\_\_ Other: \_\_\_\_\_

Comments: Drilling location is on private surface forest lands. The drilling location is sited on a previously drilled and advertised location, Foothills 44-14H. There may be possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

### **Social/Economic**

(possible concerns)

- \_\_\_ Substantial effect on tax base
- \_\_\_ Create demand for new governmental services
- \_\_\_ Population increase or relocation

Comments: No concerns..

### **Remarks or Special Concerns for this site**

Well is a single lateral horizontal well test to 6007'MD/4341' TVD in the Greybull Formation.

### **Summary: Evaluation of Impacts and Cumulative effects**

No significant impacts or cumulative effects are expected from the drilling of this test well. No long term impacts expected, since the drilling of this well would take a maximum of 20 days and the completion and testing phase if productive another 30 days. Some short term impacts will occur, but can be mitigated in a short time.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki  
(title:) Chief Field Inspector  
Date: June 24, 2013

Other Persons Contacted:

Montana Bureau of Mines and Geology, Groundwater Information Center  
(Name and Agency)  
Stillwater and Carbon County water wells.  
(subject discussed)

June 24, 2013  
(date)

US Fish and Wildlife, Region 6 website  
(Name and Agency)  
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES  
MONTANA COUNTIES, Stillwater County  
(subject discussed)

June 24, 2013  
(date)

Montana Natural Heritage Program Website (FWP)  
(Name and Agency)

Heritage State Rank= S1, S2, S3, T6S R17E  
(subject discussed)

June 24, 2013  
(date)

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Montana Cadastral Website  
(Name and Agency)  
Surface Ownership and surface use Section 14 T6S R17E  
(subject discussed)

June 24, 2013  
(date)

If location was inspected before permit approval:

Inspection date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Others present during inspection: \_\_\_\_\_